When Sustainable Development is Core Business

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Facilities Management – when Sustainable Development is Core Business

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ABSTRACT

Purpose: The purpose of the paper is an attempt to define sustainability in a Facilities Management context and to present a methodology for facilities managers to reflect on their role as system builders.

Theory: Theory of transition of large socio-technical systems are used to show the complexity of reorganising public building administration into FM for sustainable development.

Design/methodology/approach: Understandings of the term Sustainable Facilities Management is identified through reviews of FM literature as well as literature on sustainable buildings and sustainable urban development. The empirical research is focused on facilities management in a local authority, where action research is used as the main methodological approach. A process of rethinking facilities management is thus facilitated with the aim of finding ways for facilities management to contribute to a sustainable transition of society. The research is carried out in collaboration with a Danish local authority which is recognised internationally for its frontrunner initiatives as a green local authority. An ongoing Ph.D. study is included in the research.

Findings: SFM is argued to be a holistic FM strategy which contributes to a sustainable development on societal level. The empirical research points out some of the obstacles for a holistic approach and give suggestions on how to initiate a change process, where facilities managers are empowered to better address sustainability on strategic, tactical and operational level.

Originality/value: The paper presents suggestions on the role of facilities management in a sustainable transition of society by changing focus from a typically instrumental approach towards a more holistic management of its facilities. The research provides an insight into the context of FM in a local authority for the benefits of other local authorities as well as their collaborating FM partners.

Keywords

Sustainable Development, Organisational Change Processes, Local Authorities, Action Research

Category: Scientific study.

1 INTRODUCTION

"Don't underestimate the complexity and interactions of components of the world's energy systems" said the leading energy professor Franklin M. Orr, Jr., Stanford University at the final conference about future Infrastructure systems at the Technical University of Denmark in September 2009. We say: "*don't underestimate the complexity and interactions of components of the built environment"*.

As facilities manager you are the manager of components of the built environment and your component is a part of a seamless web of socio-technical artefacts (Nielsen 1999). Examples of how a building is integrated into the larger society are: the relation with the building regulation which has affected the original design of the building, the cultural understanding of work and good working environment are also socially constructed and so, is our way of conducting Facilities Management.

This paper is about Facilities Management for Sustainable development and it specially addresses the potential role that local authorities can play in the overall transformation process which societies in the developed countries want to archive.

1.1 Sustainable development

The United Nations Inter-governmental Panel on Climate Change (IPCC) documents that changes to the climate are caused by both human and natural drivers (Pachauri and Reisinger, 2007). To avoid an unstable climate and stop damaging our eco-system, the international society is challenged in many ways including the management of the built environment. There is no generally accepted definition of sustainability though the definition from the Brundtland Commission in 1987 is often used: *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"* (WCED, 1987). How this is done and by whom is not yet solved, but there is a need for action on all levels of society.

This paper is written from the point of view that even small changes on a local level can contribute to a sustainable transition of society. The question is, however, what kind of changes, where and how they can be brought about.

1.2 Sustainable Facilities Management

Sustainable Facilities Management (SFM) is one of the focus areas of the Danish Centre for Facilities Management - Realdania Research. In our understanding, SFM covers social, economical and environmental sustainability; however the aim is through research to support implementation of new and sustainable technologies and practices in the built environment. Our theoretical basis is Science of Technology Studies, planning and management theory and organization theory. The results of our research will be new methodologies of integrating SFM in design management as well as in general FM-strategies meanwhile documenting current practices and ways of increasing organizations learning and SFM-skills.

As researchers within Sustainability and FM we initially experienced these challenges:

- How should Sustainable Development be defined? When many claim to be sustainable and yet they operate according to different understandings e.g. of key performance indicators. See figure 1.

- How could we investigate the role of Facilities Management in sustainable development on a societal level? When SFM is emerging and we want to do research which can help the development of new and more sustainable FM-practices.
- What kind of organisation should be selected for empirical studies? When we want to understand the organisational change processes which are needed to make SFM work in practice.

The definition of SFM is as said unclear. The discussion on SFM seems to be biased towards technical and system solutions for isolated environmental problems. Answers to the challenge of sustainable development have been the concepts of ecological modernisation and eco-development, trying to put forward the idea that a clean environment is good for business and to supplement the formulation of sustainability criteria while giving priority to social and ecological sound management (Aagaard, unpublished).

There is an increasing amount of literature on Sustainable FM. Key words in the discussions are among others: Implementation of management tools (Shah, 2007), eco-renovation (Sobotka, Wyatt, 1998), sustainable construction (Häkkinen and Nuutinen, 2007), energy performance (Sawyer, Wilde and Turpin-Brooks, 2008) as well as indoor air quality and energy efficiency. FM is, however, also discussed in relation to sustainable development on a societal level. Alexander (2006) argues that community based facilities management can enhance opportunities for social inclusion in society, while (Jensen et al. 2008) point to the housing areas as central in sustainable development due to both resource consumption and as transition agents towards sustainable lifestyles.

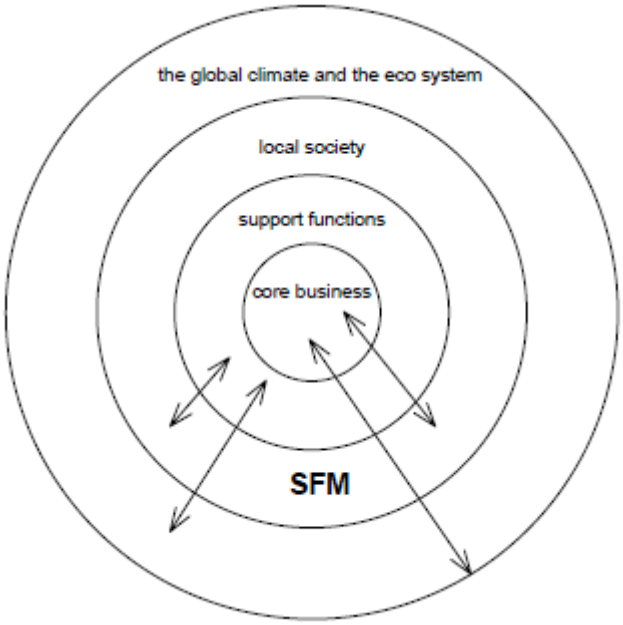

Figure 1: The SFM world view: core business, support functions, local society, the global climate and the eco system. The arrows illustrate SFM as a holistic approach which includes consideration not only of core business and support functions, but also relations with the local and global society as well as the climate and the eco system.

1.3 The role of FM in Local Authorities

Review of the 2009 editions of the Danish journal for technical directors and politicians in local authorities, shows that the leaders of the technical departments recognise that the local authorities have special obligations, possibilities and the power to contribute to a transformation of society. The selection of themes like climate management, organisational development, management and competences, articles about energy planning at municipal level and more, gives insight into how the challenges of sustainable development is perceived from the leaders' positions in the local authorities.

Head of the Association of Technical Directors in Danish Local Authorities states the challenges this way: *"The situation requires it, and citizens expect it - the local authorities must boldly meet climate challenges and find ways to exploit the potential that exists. Top managers must be able to see opportunities and provide optimal frameworks for solutions, which among other requires that the internal disciplinary boundaries of the local authority are decomposed, the creative forces released and local enthusiasts involved"* (Jentsch 2009, author's translation).

This includes:

- "*leading managers must stop old fashioned forms of management*"
- *"invest time in gaining impact on the prioritization of basis welfare services at management level"*
- *"different strategies for different types of citizens"*
- *"new and natural collaboration partners"*

(Jentsch 2009, author's translation)

The local authority has a responsibility for guiding local society towards sustainability. This is done partly through the planning act and local legislation that gives direction to the physical expression of the city and through the delivery of social services to the citizens of the local area.

What is the core business of a local authority? Centre for Sustainable Development, Gent University in Belgium, has developed a methodology to monitor the "liveability" of their cities (Block et al 2006). They have identified 8 activities, which the built environment must support:

- Culture and leisure
- Learning and education
- Enterprise and work
- Safety
- Housing
- Transport and mobility
- Medical and social care
- Nature and environment management

These activities can be supported in many ways by a local authority. The question is how it can be done in a sustainable way with efficiency and effectiveness within an FM-organisation.

Elmualim et al (2010) has recently completed a survey about the UKFM sector and the barriers as well as their commitment to the sustainability agenda. The survey results show that time

constraints, lack of knowledge and lack of senior management commitment are the main barriers for the implementation of consistent and comprehensive sustainable FM policy and practice. They conclude *"that the diversity of the FM role and the traditional undervaluation of the contribution it makes to the success of organisations are partially responsible for lack of success in achieving sustainable facilities. The overwhelming barrier for sustainable FM practice is the lack of understanding, focus and commitment of senior executives in appreciating the opportunities, threats and need for strategic leadership and direction in driving essential change, and hence further the sustainability agenda"* (Elmualim et al 2010).

In this paper we focus on the FM-department in a local authority and not on the FM-sector in general, because the local authorities have a special role in developing a holistic approach to SFM. In the following we will:

- Present a theoretical frame to understand the built environment as a mature and established socio-technical system which can be transformed.
- Use a case to illustrate the tasks of a FM-department in a local authority and inform about our initiation of a transformation process towards FM for sustainable development.
- Finally we will discuss what this means for our understanding of SFM and for planning and management of activities in the FM-department in a local authority.

2 THEORETICAL APPROACH

How can we theoretically understand and research the transformation processes that the local authorities can contribute to through facilities management? In the following we point to what we find most helpful namely: to understand the built environment as a socio-technical system with an infinite number of components which are related. This helps us in order to understand the complexity of the FM-components in the much larger system – the society. The theory of large technological systems (LTS) (Hughes 1987) is useful for managers to understand the existing building and its historical development, and through action research we believe it is possible to gain a valuable insight into the current challenges and SFM possibilities at local authority level.

2.1 Social Construction of Buildings and FM

"By considering the city as an enormous artefact, the size and distribution of its streets, sidewalks, buildings, squares, parks, sewers and so on can be interpreted as remarkable physical records of the socio-technical world in which the city was developed and conceived".

(Aibar and Bijker, 1997; quoted in "Splintering Urbanism" by Graham and Marvin 2001).

The future development of the built environment is not nature given or has a deterministic development. Instead it is the result of competing understandings, relations and negation processes. Figure 2 gives an overview of the interpretive flexibility of "SFM", which currently exists and the related key performance indicators.

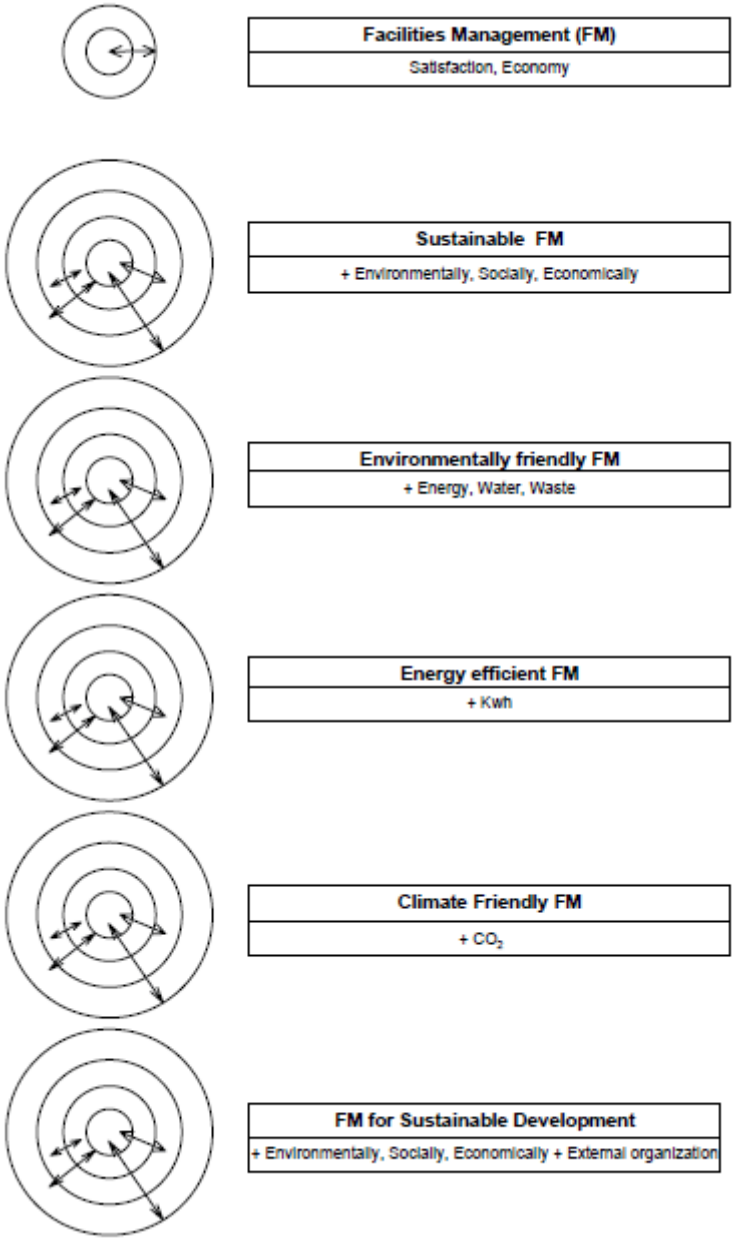

Figure 2: Trends and Key Performance Indicators in current SFM

The theory on Large Technological Systems (LTS) by Thomas P. Hughes (1987) describes different phases in the development of an infrastructure system. The original work is related to the construction of the American power system covering the period from the invention of electricity to the situation of today where urban civilisation cannot exist without electricity. One of the characteristics of LTS is the development of a momentum, which makes it almost impossible to change the basic concept of the system. The momentum increases over time and according to Hughes the system will eventually collapse due to reverse salient, which are the "weak parts" that hold back any further development and expansion. Hughes leads our attention

to the system builders who make crucial choices during the construction process and who add their personal style and preferences to the technological system in the different development phases of the system. After phases of invention and establishment, there are phases of innovation where the system can be transformed. In this paper, the lack of sustainability of the current system is seen as the reverse salient which calls on the need for innovation in our way of managing the built environment.

2.2 Action Research and Organisational Change for Sustainability

As researchers we build on our experience of more than 10 years with sustainable urban development and development projects in public organisations. Our current research question: *How is sustainable development contextualized in facilities management in local authorities and what kind of change processes is needed to enable the facilities manager to a deliberate contribution to a sustainable transition of society?* This points for us for action research as the most promising research methodology, because it creates a window into the internal processes in the studied organization and the research deals with "real life" problems and solutions.

Action research has its roots back to the work of Kurt Lewin, who during the 1940's developed the idea of Action research as a way of integrating research and education to enable the growth of a more democratic culture (Westlander, in Svensson and Nielsen, 2006). The action research tradition has a critical and change oriented approach towards structures and tendencies in society and is thus seen as an important contribution to sustainable development.

The action researcher is making him/herself part of a change process by taking the role of change agent, facilitating change and knowledge creation in a joint process with participants from practice. This implies a double task of balancing the fulfilling of practitioners' needs and at the same time conduct research that adds to existing knowledge and opens for a critical and reflective discussion in the scientific community (Westlander, in Svensson and Nielsen, 2006).

The knowledge produced in the process is a result of an embodied experience and is of practical value as well as theoretical. The criteria for knowledge are not only collection of data from the field but also a question of creating experiences which can potentially change the participant's values and beliefs in the process (Nielsen and Nielsen, in Svensson and Nielsen, 2006).

Albertslund local authority is the main practice community in the Ph.d. and joint creation of new knowledge and new practices are illustrated in figure 3. Albertslund local authority is chosen as case, as it has a long history as frontrunner on environmental management, and contribution to sustainable development is integrated in all policy areas. This means, the FM-department is not hampered by lack of political ambitions about sustainable development.

The FM-organisation in Albertslund, and the action research process so far, is presented in the following.

Figure 3: Principal research design for the action research.

3 CASE: ALBERTSLUND LOCAL AUTHORITY

"Albertslund is: good space for children, culture of all kinds and a sky high environmental profile" (Albertslund local authority 2008).

In February 2009 the Department of Real Estate, Roads and Parks in Albertslund local authority took the challenge of joining in the search for a sustainable future by participating in a Ph.d. research project addressing the role of facilities management in a sustainable development of society.

3.1 The FM-department as system builder

The organisational chart of Albertslund local authority is presented in Figure 4 below. The FM-department has been highlighted, as this is where the action research process is taking place. The FM-department is the estate manager and thereby supports all departments in the local authority organisation.

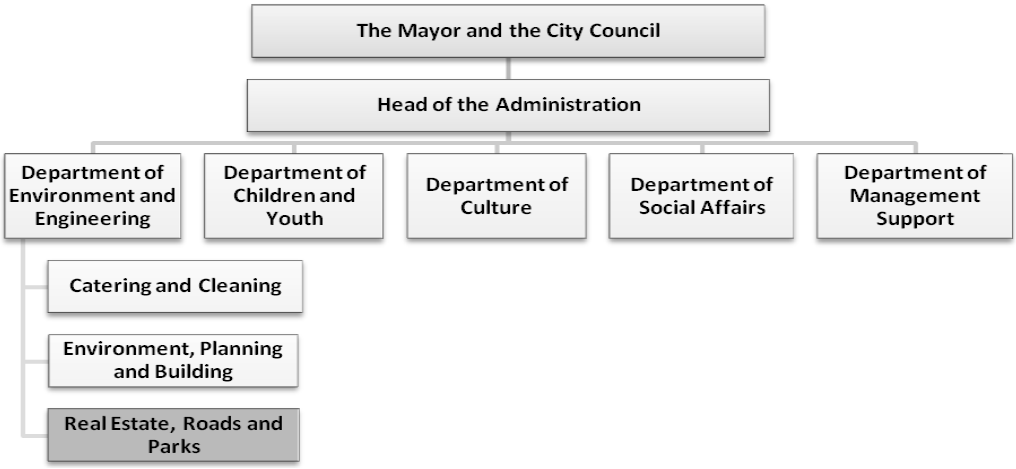

Figure 4: The principal organisation of the Albertslund local authority. The FM-department is named: Real Estate, Roads and Park

The FM department is responsible for the development and maintenance of public buildings, infrastructure and open spaces like parks, which is illustrated in figure 5. To some extent the local authorities can initiate more sustainable practices in private housing and businesses, but not as effectively as what can be done with facilities owned or managed by the local authority.

As the core function of the local authority is to support and promote sustainable development at a societal level, it is decided to focus on the development and maintenance of the facilities in a broad sense.

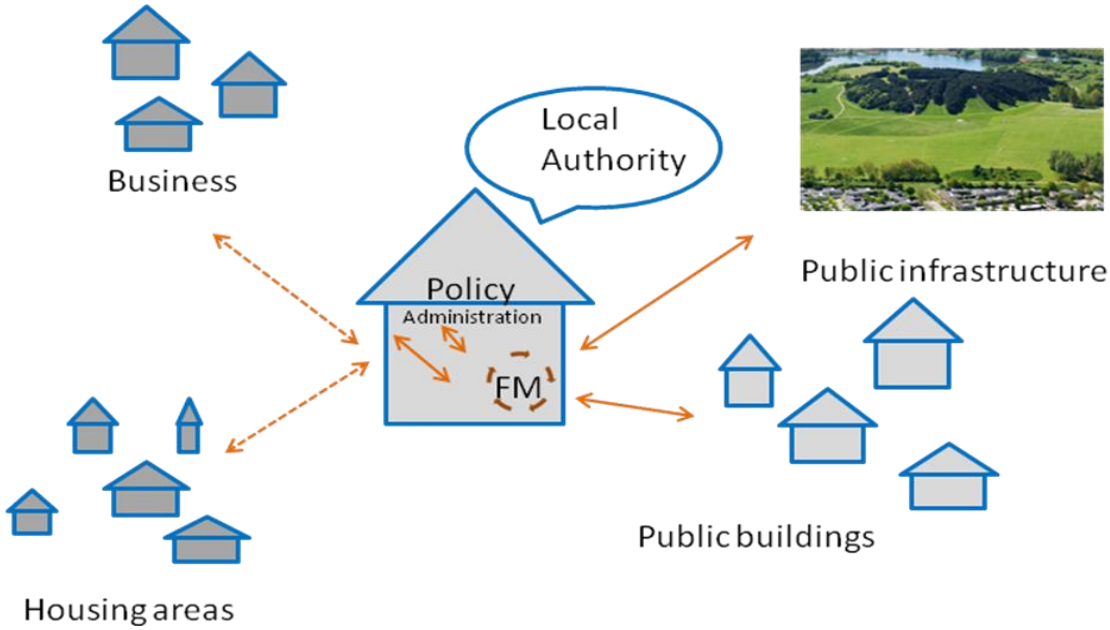

Figure 5: FM-departments working areas and sphere of influence. Arrows indicate the direct and indirect (dotted) influence that the local authority has on development of public infrastructure and buildings through FM and indirectly housing areas and business through legislation and dialogue.

3.2 Facilitating a process for reflection and development

What is Sustainable FM and how do we get there? This is the main question behind the facilitated empowerment and development process in Albertslund. The FM-department is organised in teams, so the first step was individual workshops held with each team to map current tasks and practices. The second and third steps were whole day workshops for the entire department with activities to gain insight into the tasks and competences of all teams, reflect on collaboration, to and dream about the future and more. This first phase is illustrated in figure 6.

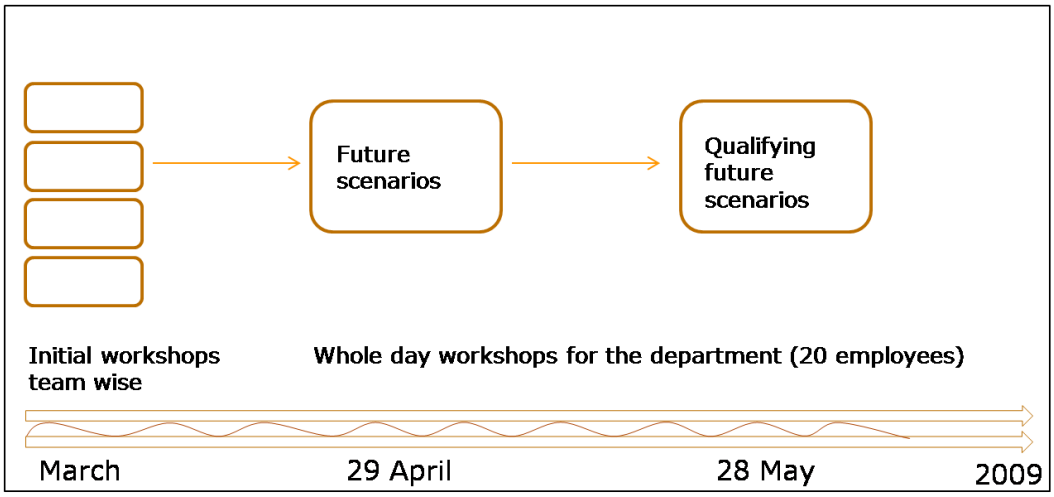

Figure 6: The process in Department of Real Estate, Roads and Parks in Albertslund local authority, spring 2009

The outcome of the workshops was four topics chosen by the employees as most important in the search for SFM:

- Strategy for a sustainable facilities management.
- Environmental management practice.
- Data handling system.
- Communication.

Each topic is formulated as a future scenario and the employees have worked over a longer period to develop the scenarios and ideas for transforming the scenarios into action plans as illustrated in figure 7.

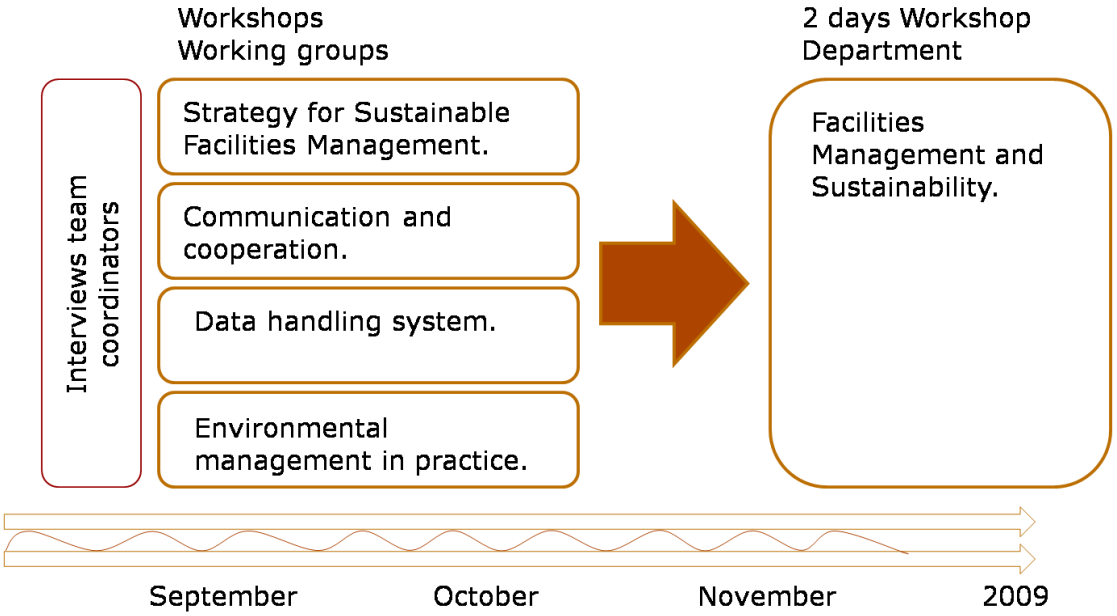

Figure 7: The process in the local authority in the autumn 2009

As we are writing, the action research is not yet at a stage, where we can predict where this development is going, but the respond from the employees is that a new and promising atmosphere is created at the workshops and this has had some impact on the daily work. An example is the practices of informing about ongoing projects in the different teams and social practices of saying hallo/good bye as well as the use of a special room for "innovation-meetings". The employees express hope and believe that the organization can function differently in the future and as researchers we have documented many observations and reflections on how FM-managers in local authorities can become better at managing sustainable development in the build environment. In this paper we will not go into the observations of the relation between the external conditions the local authorities have for acting more sustainable, but this is another important element in understanding what hamper FM for sustainable development.

4 DISCUSSION

In Albertslund we have started a bottom-up process for the department to reflect on what SFM is and how a local authority can contribute to sustainable development. Our research is continuing, why these are our preliminary findings.

The collaboration with the FM department in Albertslund gives us a deeper understanding of the possibilities the FM-department has for contributing to the transformation of the built environment and sustainable development. The possibilities are many, however fragmented and occur in a variety of situations. Some are about selection of products and service partners while others have to do with planning or management of building projects or urban planning.

Even though Albertslund local authority has a high environmental profile, there seems to be a missing link between the instrumental approach - e.g. green accounts, environmental management, social corporate responsibility etc. and a sustainable transition on a societal level.

The mapping of the daily tasks in the initial workshops documented that the employees experience days full of operational tasks related to building administration and service to citizens, politicians and other departments within the local authority and nearly no time spend on tactical and strategic reflections. This is characteristic for an established LTS according to (Hughes 1987). The facilitated process creates space and opportunities for the employees to work with whatever it takes for them to be able to act differently and use these possibilities in a more coordinated and strategic transformation process.

The most obvious focus in authorities together with their core function is to contribute to a sustainable development of society. How can the facilities managers be empowered to do that? On the basis of findings in the research presented above, we point to some suggestions below:

- Bottom up change process.
- Creation of free arenas where the employees can create future scenarios and have free discussions on means of changing ways of working.
- Focus on future scenarios.

- Addressing working life as well as the tasks.

Finally we like to discuss if the case of Albertslund is representative for FM in local authorities in general. From our knowledge it is representative in respect to building portfolio and the relatively traditional focus on building administration. However the outspoken political support to integration of processes and holistic thinking when managing the build environment is beyond the situation in most local authorities. This is why we hope this action research project will lead to a scholar example of new FM-practices and new knowledge about SFM, which will be an inspiration for other local authorities and their FM service partners.

5 CONCLUSION

This paper links sustainable transition of society with organisational change processes in a facilities management department and is a step towards contextualising sustainable development in a Facilities management perspective.

SFM in a local authority is understood as a holistic FM strategy which contributes to a sustainable development on societal level. The empirical research points to obstacles for a holistic approach and give suggestions on how to initiate a change process, where facilities managers are empowered to better address sustainability on a strategic, tactic and operational level.

6 ACKNOWLEDGEMENT

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